OCEAN GALES AND STORMS JUNE, 1926

Vessel	Voyage		Position at time of lowest barometer		Gale began	Time of lowest barometer	Gale ended	Lowest barometer	Direction of wind when gale began	Direction and force of wind at time of lowest barometer	Direction of wind when gale ended	Highest force of wind and direction	Shifts of wind near time of lowest barometer
	From—	To—	Latitude	Longitude									
NORTH ATLANTIC OCEAN			° ′	° ′				*Inches*					
McKeesport, Am. S. S.	New York	Havre	40 25 N.	56 30 W.	1st	2a., 1st	1st	29.90	NE.	NE., 8	NE.	NE., 8	Steady.
Tetonia, Ger. S. S.	Hamburg	Guatemala	42 20 N.	20 00 W.	1st	—, 1st	1st	29.97	SW.	SW., 8	WSW.	—, 8	
Wellfield, Br. M. S.	English Channel.	Key West	42 00 N.	38 46 W.	2d	3 p., 2d	3d	29.35	SSE.	—	NW.	NW., 9	SW.–W.–NW.
M. F. Elliott, Am. S. S.	New York	Texas City	32 25 N.	76 10 W.	6th	5 a., 6th	6th	29.67	SSW.	SSW., —	SSW.	SW., 11	Steady.
Burgondier, Belg. S. S.	Port Said	Hampton Roads.	36 55 N.	69 55 W.	8th	4 p., 9th	9th	30.01	S.	SSW., 8	W.	SSW., 8	SSW.–NW.
Stockholm, Swed. S. S.	Gothenburg	New York	49 24 N.	35 24 W.	9th	8 a., 10th	10th	29.45	WNW.	WNW., 3	WNW.	—, 8	NW.–SE.–SW.
Baxtergate, Br. S. S.	Rotterdam	Hampton Roads.	42 56 N.	45 04 W.	11th	Noon, 12th	12th	29.67	S.	SW., 9	SW.	SW., 9	S.–SW.
Denham, Br. S. S.	do	do	50 04 N.	12 27 W.	9th	4 a., 12th	13th	29.22	WSW.	SW., 8	WNW.	WNW., 9	SW.–W.
West Hika, Am. S. S.	Hamburg	Pensacola	47 50 N.	10 26 W.	13th	8 p., 13th	14th	29.46	W.	W., 7	WNW.	WNW., 8	Steady.
Baxtergate, Br. S. S.	Rotterdam	Hampton Roads.	42 15 N.	61 57 W.	15th	Mdt. 15th	16th	29.54	NE.	NE., 8	NE.	NE., 8	Do.
United States, Dan. S. S.	Oslo	New York	48 40 N.	36 30 W.	16th	5 p., 17th	18th	29.14	SE.	S., 7	NW.	NW., 9	SE.–S.–SW.–NW.
Bird City, Am. S. S.	Copenhagen	Boston	56 07 N.	23 20 W.	18th	4 a., 19th	19th	29.57	SW.	SW., 8	SW.	—, 8	Steady.
Innoko, Am. S. S.	New York	Rotterdam	41 15 N.	54 32 W.	19th	4 a., 20th	20th	29.76	S.	SSE., 7	NNW.	—, 8	SSE.–NNW.
Gaasterdijk, Du. S. S.	Rotterdam	Galveston	44 10 N.	38 26 W.	22d	10 p., 22d	23d	29.60	ENE.	N., 9	NNW.	NNW., 9	ENE.–N.
Pres. Polk, Am. S. S.	Marseille	Boston	41 25 N.	34 20 W.	23d	6 a., 23d	24th	29.51	WNW.	SW., 7	N.	WNW., 10	WNW.–N.
Waaldijk, Du. S. S.	Las Palmas	Rotterdam	43 42 N.	9 13 W.	28th	4 p., 28th	29th	29.96	ENE.	E., 7	ENE.	E., 8	N.–NE.–E.
NORTH PACIFIC OCEAN													
India Arrow, Am. S. S.	Shanghai	San Francisco.	44 13 N.	155 33 W.	May 31	3 a., 1st	1st	29.72	SW.	SSW., 9	SW.	SSW., 9	SW.–SSW.–SW.
Robert Dollar, Br. S. S.	Karatsu	San Pedro	43 17 N.	137 30 W.	do	3 a., 2d	3d	29.61	SSW.	SSW., 8	SSW.	SSW., 8	Steady.
Tamaha, Br. S. S.	Hongkong	San Francisco.	44 24 N.	139 57 W.	June 1	Noon, 2d	3d	29.68	SSW.	S., 9	SSW.	S., 9	S.–SSW.
Maunaweli, Am. S. S.	Port Allen	do	37 30 N.	124 W.	June 4	4 a., 5th	5th	29.78	N.	NNW., 7	NNW.	NNW., 8	Steady.
Canad. Importer, Br. S. S.	San Pedro	Vancouver	42 27 N.	125 W.	June 8	2 p., 8th	9th		N.	N., 7	N.	N., 9	Do.
China Arrow, Am. S. S.	San Francisco.	Hongkong	40 N.	150 20 E.	June 7	Noon	7th	29.93	SE.	SE., 8	SW.	SE., 8	SE.–SW.
Do	do	do	28 24 N.	128 E.	June 12	1 a., 13th	13th	29.47	E.	NE., 10	NE.	NE., 10	ESE.–NE.
Pres. Lincoln, Am. S. S.	Shanghai	Honolulu	34 19 N.	138 E.	June 13	9 a., 14th	14th	29.18	ENE.	NE., 10	NE.	NE., 11	ENE.–NE.
West Chopaka, Am. S. S.	San Francisco.	Yokohama	35 40 N.	142 30 E.	June 13	1 a., 15th	15th	29.20	ENE.	N., 11	N.	N., 11	Steady.
Shintoku Maru, Jap. S. S.	Muroran	San Diego	39 45 N.	144 09 E.	June 14	9 a., 15th	15th	29.05		SW., —		E., 8	SE.–WSW.
Duchessa d'Aosta, It. S. S.	San Francisco.	Balboa	15 20 N.	96 25 W.	June 13	9 p., 13th	14th	29.55	ESE.	NE., 9	NNE.	NE., 10	NE.–NNE.
Sonoma, Am. S. S.	Sydney, N. S. W.	San Francisco.	36 40 N.	125 40 W.	June 14		14th	29.91	NNW.	NW., 8		NW., 8	Steady.
Oakridge, Am. S. S.	Dairen	do	47 40 N.	161 10 W.	June 17	8 p., 17th	18th	29.70	E.	ENE., 7	E.	ENE., 8	Do.
Bessemer City, Am. S. S.	Los Angeles	Kobe	36 02 N.	162 42 E.	June 26	8 a., 27th	27th	29.58	S.	SSW., 8	WSW.	SSW., 8	SSW.–SW.
SOUTH PACIFIC OCEAN													
Tahiti, Br. S. S.	San Francisco.	Sydney, N. S. W.	34 18 S.	152 20 E.	June 11	2 a., 12th	12th	29.87	NW.	SW., —	SW.	WNW., 8	WNW.–SW.
SOUTH ATLANTIC OCEAN													
Alchiba, Du. S. S.	Bahia Blanca	Antwerp	36 43 S.	55 22 W.	do	Noon, 11th	12th	29.29	WSW.	WSW., 7	SW.	WSW., 9	WSW.–W
Crofton Hall, Am. S. S.	Norfolk	Montevideo	34 30 S	53 40 W.	do	5 a., 11th	12th	29.29	WSW.	W., 6	SW.	WSW., 9	W.–WSW

NORTH PACIFIC OCEAN

By WILLIS EDWIN HURD

The weather would have been exceptionally fine on the North Pacific Ocean during June had it not been for the frequent and widespread fog over a large part of the northern half. More steamers than usual reported it and some experienced it continuously for several days in succession. There was no day without its occurrence over some considerable area or areas north of the 35th parallel. Fog lessened rapidly to the southward, and below the 30th parallel it was not reported except on the 14th, near Cape San Lucas.

There was considerable movement of HIGHS and LOWS especially in middle latitudes, but the resulting winds did not attain full storm force, so far as known, except in a typhoon off the Japanese coast, and the gales that did arise appeared only over scattered local areas.

The average atmospheric pressure was close to the normal, the only considerable departure, so far as known, occurring north of the 55th parallel. At the Pribilof Islands pressure was 0.20 inch above the normal, due to the considerable northward movement of high pressure areas. The Aleutian LOW existed only as a huge, shallow, and irregular area over the Gulf of Alaska and adjacent waters to the westward. Its average pressure was only slightly less than 30 inches, although its central pressure, upon one occasion early in the month, dropped nearly to 29 inches.

The North Pacific HIGH was never entirely displaced. It overlay the coast at Washington and British Columbia, and thence extended southwestward, with the center averaging near 40° to 45° N., 140° to 145° W. The reports of some vessels showed an absence of trade winds between California and the Hawaiian Islands, while others indicated them to be weaker and unsteadier than usual.

TABLE 1.—*Averages, departures, and extremes of atmospheric pressure at sea level at indicated hours, North Pacific Ocean, June, 1926*

Station	Average pressure	Departure from normal	Highest	Date	Lowest	Date
	Inches	*Inch*	*Inches*		*Inches*	
Dutch Harbor [1]	29.96	−0.03	30.36	7th	29.54	3d.
St. Paul [1]	30.09	+0.20	30.50	8th	29.58	5th.
Kodiak [1]	29.98	+0.04	30.46	7th	29.08	3d.
Midway Island [1 4]	30.02	−0.05	30.22	4th [2]	29.68	16th.
Honolulu [4]	29.99	−0.05	30.10	2d	29.78	8th.
Juneau [4]	29.99	−0.02	30.27	6th	29.40	26th.
Tatoosh Island [4 5]	30.09	+0.04	30.34	5th	29.79	24th.
San Francisco [4 5]	29.92	−0.04	30.06	4th	29.77	5th.
San Diego [4 5]	29.91	+0.02	30.07	3d	29.75	27th.

[1] P. m. observations only.
[2] For 29 days.
[3] And other date.
[4] A. m. and p. m. observations.
[5] Corrected to 24-hour mean.

In the Hawaiian area Honolulu continued to experience prevailing east winds, though the maximum velocity was 30 miles from the southwest. This was on the 8th during what the observer termed an "unseasonable kona," which brought excessive precipitation for a short time and broke a seven-months' drouth. The total June rainfall was 1.98 inches, which is 1.06 inches above the normal. The kona was due to a depression which appeared over the islands on the 5th. The LOW moved northward and slightly westward, affecting Honolulu most on the 8th. On the 11th it had traveled northwestward to a point near 50° N. and the 180th meridian, where it shortly disappeared without the usual eastward inclination of such cyclones.

During a considerable part of the month LOWS lay over Mongolia and eastern China. One of these appeared over the Yangtse Valley on the 9th. It moved into the Eastern Sea on the 11th, and by the afternoon of the 12th, when it was central between Taiwan and southern Japan, had acquired considerable intensity. Late on the 12th and early on the 13th the American steamer *China Arrow* was experiencing gales of force 10 from NNE. to NE., in 28° 24′ N., 128° E., with barometer down to 29.47 inches. During the 13th the storm crossed the Nansei Archipelago and late on that date and during the 14th and early 15th vessels off the lower and eastern Japanese coasts were experiencing northerly to northeasterly winds of force 10 and 11, with squalls of hurricane force. Among these vessels were the American steamers *President Lincoln* and *West Chopaka*. The cyclone closely touched the eastern extremities of Hondo and Yezo, the latter on the afternoon of the 15th and, thence moving northeastward, seems shortly to have died out east or southeast of Kamchatka.

In the American Tropics the rainy season was well established at sea early in the month, especially off the Central American coast. One cyclone developed in this area. Our only information thus far received concerning it is from the Italian steamer *Duchessa d'Aosta*, which was southward bound at the time of the blow. Late on the 13th, while west of the southern part of the Gulf of Tehauntepec, this vessel ran into a moderate gale from ESE., with falling barometer. Before midnight the gale had changed to NE. by N., and increased to force 10, with pressure at 29.55 inches. At 5.30 a. m. of the 14th the barometer had risen only 0.03 inch from the lowest reading, with the wind at WSW., 7, and decreasing, in 15° N., 95° 50′ W.

NOTES

South Pacific Cyclone.—According to press reports the harbor of Valparaiso, Chile, was swept by a hurricane on June 10, and much damage was done to shipping.

Indian monsoon.—The British steamer *Eurylochus*, while crossing the north Indian Ocean between Penang and Aden, experienced the southwest monsoon from June 7 to 20. On the 17th to 19th, while between 8° N., 55° E., and Cape Guardafui, the vessel reported a strong monsoon, often reaching force 8, but with "barometer following usual range."—*W. E. H.*

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DETAILS OF THE WEATHER IN THE UNITED STATES

GENERAL CONDITIONS

The outstanding feature of the month was its resemblence to one of the colder months of the year rather than to a normal June month; cyclonic systems developed rather more than the usual intensity and there were a large number of days when low pressure in the southeastern States, in conjunction with higher pressure to the northward, caused north to east winds and much cloudiness over the northeastern States, the Lake region and Ohio Valley, where the month was unusually cool. In the far west it was exceptionally warm, due to clear skies and abundant sunshine. Precipitation, as a rule, was deficient, although some rather small areas received more than the normal amount. The usual details follow.—*A. J. H.*

CYLCONES AND ANTICYCLONES

By W. P. DAY

Twelve LOWS were plotted, which were important enough to be identified at three successive observations, and a few of these reached moderate intensity, especially along the northern border and in southern Canada. However, there were an unusual number of slight barometric depressions of local and temporary character especially over the Southern States, which could not be easily traced from the succeeding observations.

The 9 HIGHS were mostly of the Alberta type, the pressure being considerably above the normal at Fort Simpson on the Mackenzie River during most of the month; but the HIGHS pushing southward from the latter region were only of slight or moderate magnitude.

FREE AIR SUMMARY

By L. T. SAMUELS

Free-air temperatures averaged mostly below normal, with the negative departures increasing with altitude at several of the stations. (See Table 1.)

Relative humidities averaged close to normal, while the varpor-pressure departures were mostly negative at all aerological stations.

In Table 2 it may be seen that the resultant winds were close to their normal values at all stations except Ellendale, where a pronounced northerly component prevailed as compared to the normal southerly. At this station it will be observed, the negative temperature departures increase most appreciably with altitude.

The resultant winds for the month as shown by pilot-balloon observations indicated, at the 1,000 m. level, a marked southerly component over Florida, Texas, and Oklahoma, and an equally marked northerly component over North Dakota. At the other stations east of the Mississippi River the predominant resultant direction at this level was practically west. At 5,000 m. the resultant winds were northwest over all stations west of the Atlantic coast States. In the latter they were mostly west, while over southern Florida they were southwest.

Deep easterly winds were observed on the last three days of the month to heights of 10 km. at Broken Arrow, Groesbeck, Memphis and Due West. These stations were at the time situated in the southern quadrant of a ridge of high pressure extending in an E-W direction. At Washington, D. C., on these days a light northwesterly wind extending to 8 km. was surmounted by a gale reaching 34 m. p. s. from the west-southwest. The line